USSR UDC: [546.623:546.723:546.46:546.732]:54-36

CHALYY, V. P. and LUKACHINA, YE. N., Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR

"Formation of Magnesium Ferroaluminate with Additions of Cobalt From Metal Hydroxides"

Moscow, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 8, No 4, Apr 72, pp 737-740

Abstract: The conditions for the formation of Mg ferroaluminate with Co additions in the quaternary hydroxide system $Mg(OH)_2$-$Co(OH)_2$-γ-AlOOH-α-FeOOH have been studied. The content of the components recalculated to oxides (wt.%) is given as: MgO-18.00; CoO-0.56; Al_2O_3-10.12; Fe_2O_3-71.32. The study included the effect of pH of the mother solution, temperature and duration of treatment on the composition and properties of the hydroxide ferrite powders, and the annealing conditions on the properties of the products made from the powders. Use was made of chemical analyses, pH measurements, differential thermograms, thermogravimetry, x-ray diffraction phase analyses, and magnetic measurements to study the conditions of coprecipitation of Mg, Co(II), Al and Fe(III) hydroxides, the structural transformations following heat treatment of precipitates, and the magnetic properties of products from hydroxide-type ferrite powders of given com-

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520011-8"

USSR

CHALYY, V. P., et al, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 8, No 4, Apr 72, pp 737-740

positions. The analytical data and results are reflected in tables. (1 illustration, 3 tables, 3 bibliographic references).

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1/1 008 UNCLASSIFIED PROCESSING DATE--23OCT7C

TITLE--SYNTHESIS OF O HIPPURYL, DELTA GUANIDINO ALPHA L HYDROXYVALERIC ACIC O HIPPURYL L ARGININIC ACID -U-

AUTHOR-(03)-KRAINOVA, B.L., KIPORENKO, S.S., CHAMAN, YE.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 708-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALIPHATIC HYDROXY CARBOXYL ACID, GUANIDINE, BENZENE DERIVATIVE, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/2015 STEP NO--UR/0079/70/040/003/0708/0709

CIRC ACCESSION NO--AP0120658

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LUBRICANT -U-

AUTHOR-(05)-PASEHCNIK, M.S., KAMINSKIY, N.A., OSEYKO, N.I., CHAMIN, I.A., PETROVSKIY, A.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,987

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, SURFACTANT, METALWORKING LUBRICANT, COLD WORKING, HOT WORKING, VEGETABLE OIL, ESTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1805 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130638

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0130638

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LUBRICANT FOR COLD AND HOT METAL WORKING WAS PREPD. FROM CORIANDER FATTY OIL BY HEAT TREATMENT AT 150-330DEGREES AND 5-500 MM AND MIXING WITH MINERAL OR VEGETABLE OIL OR WITH A SURFACTANT, SUCH AS A SYNTHETIC ESTER.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--LUBRICANT FOR THE COLD AND HOT WORKING OF METALS -U-

AUTHOR-(05)-SERGELSON, L.D., DYATLOVITSKAYA, E.V., GRESHNYKH, K.P., GILIN, N.A., CHABIN, I.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,351

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METALWORKING LUBRICANT, COLD WORKING, HOT WORKING, CHEMICAL PATENT, LUBRICANT ADDITIVE, PETROLEUM PRODUCT, HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1801 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130634
UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0130634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE LUBRICANT IS PREPD. BY MICROBIOLOGICAL TRANSFORMATION OF A PARAFFIN CONTG. PETROLEUM PRODUCT, HYDROGENATION OF THE RESULTING PRODUCT, DEODORIZATION, AND MIXING WITH ADDITIVES. FACILITY: INSTITUTE OF CHEMISTRY OF NATURAL COMPOUNDS, ACADEMY OF SCIENCES, U.S.S.R.

UNCLASSIFIED

/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
TLE--PURIFICATION OF RIBONUCLEASE -U-

THOR-(05)-RYSHKA, F.YU., POLONSKAYA, L.B., BELENKIY, N.G., TSIGANKOVA,
V.N., CHAMIN, N.N.
UNTRY OF INFO--USSR

URCE--U.S.S.R. 259,790
FERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(3)
TE PUBLISHED--22DEC69

BJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

PIC TAGS--PATENT, RIBONUCLEASE, CHEMICAL PURIFICATION

NTROL MARKING--NO RESTRICTIONS

CUMENT CLASS--UNCLASSIFIED
OXY REEL/FRAME--1990/0914 STEP NO--UR/0482/69/000/000/0000/0000

RC ACCESSION NO--AA0109071
UNCLASSIFIED

/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
RC ACCESSION NO--AA0109071
STRACT/EXTRACT--(U) GP-0- ABSTRACT. RNASE IS TREATED WITH PHENOL AND
ALC. AND THE OBTAINED PPT. IS EXTD. WITH H SUB2 O. THE EXT. IS
LYOPHILZED AND THE RESULTING PRODUCT IS FILTERED ON SEPHADEX.

USSR UDC 546.183

NIFANT'YEV, E. Ye., ANDRIANOVA, I. P., KOSTROMIN, N. P., and CHAN DIN' DAT, Moscow State University imeni M. V. Lomonosov and Moscow Pedagogical Institute imeni V. I. Lenin

"Acid Phosphites of Methylglucoside and 1,2-Cyclohexylideneglucose"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1619-1624

Abstract: Phosphorylation of 1,2-cyclohexylideneglucofuranose and α-methylglucoside by the mono-, dimethyl phosphite and by phosphorous acid occurs principally at the primary alcohol group of the sugar. During the esterification of α-methylglucoside with the phosphonous acid a phosphonite is formed which can be oxidized to the respective phosphonate.

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1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--REACTIONS OF PROTON PHOTOTRANSFER IN NONAQUEOUS SOLUTIONS -U-

AUTHOR-(03)-KUZMIN, M.G., UZHINOV, B.M., CHAN, D.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 476-80

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, PHOTON, NAPHTHOL, DIETHYLAMINE, THERMODYNAMIC CHARACTERISTIC, CYCLOHEXANE, COMPLEX COMPOUND, EXCITED STATE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1991 STEP NO--UR/0368/70/012/003/0476/0480

CIRC ACCESSION NO--AP0132252

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132252

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PROCESS WAS STUDIED SPECTROPHOTOMETRICALLY AND SPECTRO FLUORIMETRICALLY BY USING THE 2,NAPHTHOL,ET SUB2 NH SYSTEM IN ETOH, CYCLOHEXANE, AND C SUB6 H SUB6. THERMODYNAMIC VALUES ARE GIVEN FOR THE VARIOUS SYSTEMS. THE RESULTS INDICATE THAT IN NONPOLAR CYCLOHEXANE A H-BONDED COMPLEX RESULTS IN THE EXCITED STATE, WHEREAS IN C SUB6 H SUB6 AND ETOH ION PAIRS AND DISSOCD. IONS, RESP., ARE FORMED.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--VOLT AMPERE CHARACTERISTICS OF A PLASMA LAYER OF AMORPHOUS OR POLYCRYSTALLINE SELENIUM CONTACT -U-

AUTHOR-(02)-CHAN, K.L., ANDREYEV, A.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 647-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, POLYCRYSTAL, SELENIUM, PLASMA DISCHARGE, HIGH FREQUENCY DISCHARGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1022 STEP NO--UR/0057/70/040/003/0647/0649

CIRC ACCESSION NO--AP0115043

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0115043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE V-A CHARACTERISTICS WERE COMPARED FOR THE CONTACT OF A HIGH FREQUENCY PULSED DISCHARGE PLASMA EXCITED IN AIR WITH 50 MU LAYERS OF AMORPHOUS SE, POLYCRYST. SE, OR METAL. THE CHARGED PARTICLE CONCN. IN THE PLASMA WAS 10 PRIME9 -CM PRIME3 AND THE ELECTRON TEMP. WAS 2 EV. THE V-A CHARACTERISTICS OF THE CONTACT OF THE PLASMA WITH THE POLYCRYST. SE AND THE METAL ARE SIMILAR. FOR THE AMORPHOUS SE THE CONTACT HAS RECTIFYING PROPERTIES. FROM A COMPARISON OF THE CHARACTERISTICS IT IS CONCLUDED THAT THE APPEARANCE OF THE VALVE EFFECT IS LARGELY DUE TO THE INJECTION OF ELECTRONS FROM THE PLASMA INTO THE LAYER OF AMORPHOUS SE. FACILITY: BELORUSS. GOS. UNIV. IM. LENINA, MINSK, USSR..

UNCLASSIFIED

USSR

CHAN VU TKHIEU

"One Problem in Block Programming"

Mat. Metody Resheniya Ekon. Zadach [Mathematical Methods of Solving Economics Problems -- Collection of Works], No 3, Moscow, Nauka Press, 1972, pp 24-36 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V519, from the article).

Translation: The purpose of this work is to describe a method of solving one class of linear programming problems in which all vectors of the conditions are divided into two groups, the vectors of the first group having a certain special structure (for example, transport or block diagonal structure), allowing use of a special, rather economical algorithm for solution of linear programming problems with condition vectors of this group alone, while the condition vectors of the other group are of general form.

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USSR UDC 669.187.2.083.4:621.365.2

CHERNOV, B. G., CHAN KHOA, and AGEYEV, P. Ya., Leningrad Polytechnic Institute imeni M. I. Kalinin

"Study of Processes of Removing Admixtures From Non-Ferrous Nickel Metals During Vacuum Smelting"

Moscow, Stal', No 4, Apr 73, pp 327-329

Abstract: An experimental investigation was made in 1-Kg laboratory vacuum furnaces with induction heating and resistance heating, of the behavior of Pb, Bi, Sb, Cu, and Sn admixtures in Ni at temperatures in the 1500-1700°C interval and at a residual pressure of 10 mm Hg. The kinetic variation curves of the admixture content are practically linear, indicating that the process of removing admixtures from the melts follows the first Fick law. At temperatures where the process of vaporization of particles from the surface of the bath dominates over the diffusion through the thoroughly mixed surface layer of the liquid, the application of induction furnaces is recommended because the melt is intermixed more intensively than in electric resistance furnaces. Two figures, one table, two bibliographic references.

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USSR

UDC 612.766.1:656.13.071.7

VAYSMAN, A. I., LASHCHENKO, N. S., IKSANOV, M. SH., DOROFEYEVA, Ye. D., ROSTOVTSEVA, G. G., GOLOVA, I. A., CHANDAYEV, A. K., VOL'PER, G. I., and E. I. KOGAN

"Physiological Characteristics of the Work of Bus and Truck Drivers in a Large City"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1973, pp 13-16

Abstract: The results of various functional psychological and physiological tests (reflexes, reaction to a moving object, proof reading test, EKG, blood pressure, pulse, etc.) confirmed the conclusions drawn from questionnaires filled out by 8000 bus drivers that fatigue gradually sets in after 4 to 5 hours on the job and becomes pronounced after 7 to 8 hours of driving. Along with a deterioration in performance, many showed an "improvement" in some physiological indices at the end of the work shift (e.g., increase in number of correct reactions to a moving object, decrease in time of differential reactions). This "improvement" is regarded as the result of overstraining the compensatory mechanisms in order to preserve a level of activity sufficient to protect the life and health of the driver. The truck drivers, on the other hand, continued to function well even after 8 or 9 hours on the job because

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VAYSMAN, A. I., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1973, pp 13-16

of the less strenuous nature of the work (less time spent in driving during the shift, fewer actions to control the vehicle per unit of time, and less emotional stress). Some suggestions are made for altering the work schedules of bus drivers to take into account the physiological factors uncovered in the study.

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USSR

UDC: 519.2

KANDELAKI, N. P., CHANTLADZE, T. L.

"Concerning the Langevin Equation in an Infinite Space"

Tr. Vychisl. tsentra AN GruzSSR (Works of the Computing Center of the Academy of Sciences of the Georgian SSR), 1972, 11, No 1, pp 62-64 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V111 by V. Sazonov)

Translation: Let H be a separable Hilbert space, β -- a bounded linear operator in H, and W_s -- a Wiener process with values in H with correlation operator s. It is shown that if the operators s and β are interchangeable, and the operator $\beta + \beta^T$ (T is the transposition sign) is positive definite and has an inverse, then the covariation operator s_t of the solution of the generalized Langevin equation

$$\frac{d\xi}{dt} + \beta(\xi) = \frac{dW_s}{dt}, \quad t \in (0, \infty),$$

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KANDELAKI, N. P., CHANTLADZE, T. L., Tr. Vychisl. tsentra AN GruzSSR, 1972, 11, No 1, pp 62-64

converges with respect to the operator norm to $(\beta + \beta^T)^{-1}s$ as $t \to \infty$.

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USSR

UDC 519.21

KANDELAKI, N. P., and CHANTLADZE, T. L.

"Stochastic Solution of Differential Equations in Hilbert State"

Tr. Vychisl. tsentra. AN GruzSSR (Transactions of the Computer Center of the Georgian SSR Academy of Sciences), Vol 10, 1970, No 2, pp 25-34 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V127 by M. Nevel'son)

Translation: Theorems are derived for the existence, uniqueness, and differentiability relative to initial S, x conditions of the solution $\xi_{s,x}(t)$ of a stochastic integral equation in Hilbert space. Further, as usual, a certain functional dependent on $\xi_{s,x}(t)$ is constructed, and it is proven that it is a solution of the corresponding partial differential equation.

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USSR UDC: 681.327.5'21

CHANTSEV, K. A.

"A Device for Signal Correction in Reading out Visual Information"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289427, division G, filed 12 Jun 68, published 8 Dec 70, pp 164-165

Translation: This Author's Certificate introduces a device for signal correction in reading out visual information. The device contains a photodetector, an information code recognition module, signal shaper, AND circuits, a flip-flop and differentiation module. As a distinguishing feature of the patent, the operational reliability of the device is improved by adding a module for accumulating and comparing the number of pulses. One of the inputs of this module is connected to a synchropulse unit through an AND gate whose second input is connected to the unit-output of the flip-flop, which is also connected to the input of a second AND gate. The output of this second AND gate is connected to the zero input of the flip-flop through the differentiating module. The unit-input of the flip-flop is connected to one of the outputs of the information code recognition module. Connected to the other output of this module are the second input of the module, for accumulating and comparing the number of pulses, and the zero input of the flip-flop.

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1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MATERIALS BASED ON POLYVINYL CHLORIDE FOR PACKAGING FOODS -U-

AUTHOR-(03)-CHANTSEVA, A.S., CHERNOVSKAYA, R.P., OVCHINNIKOV, YU.V.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (6), 62-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PACKAGING MATERIAL, FOOD CONTAINER, POLYVINYL CHLORIDE, PLASTICIZER, CHEMICAL STABILIZER, ACRYLATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0709 STEP NO--UR/0191/70/000/006/0062/0064

CIRC ACCESSION NO--AP0136148

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136148

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMULATIONS WERE DEVELOPED FOR THE MANUF. OF SMALL FOOD CONTAINERS. THE MOST ACCEPTABLE MECH., ESTHETIC, AND ORGANOLEPTIC PROPERTIES WERE OBTAINED WITH POLY(VINYL CHLORIDE) CONTG. LESS THAN OR EQUAL TO 3 PARTS DIOCTYL PHTHALATE-100 PARTS COMPN. AS THE PLASTICIZER AND A STABILIZING MIXT. OF CA STEARATE, ZN STEARATE, EPOXIDIZED SOYBEAN OIL, THIOALKOFEN BP, AND POLYGARD. THE ADDN. OF SMALL AMTS. OF VINYL CHLORIDE,2,ETHYLHEXYL ACRYLATE COPOLYMER INCREASED THE IMPACT STRENGTH OF THE COMPN.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--USE OF EXPANDING PLUGGING CEMENT IN THE WELLS OF UNDERGROUND GAS STORAGE TANKS -U-

AUTHOR-(04)-DANYUSHEVSKIY, V.S., SNEGIREV, N.P., ROZOV, V.N., CHAO, P.H.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(2), 6-8

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS

TOPIC TAGS--LIME, NATURAL GAS, CEMENT, SILICA, STEEL, ADHESION, UNDERGROUND FACILITY, FUEL STORAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2041 STEP NO--UR/0492/70/015/002/0006/0008

CIRC ACCESSION NO--AP0122270

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122270

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF GROUND UNSLAKED LIME IN AN UNSTATED AMT. TO THE TITLE CEMENTS GREATLY IMPROVED THEIR EXPANDING POWER, RESISTANCE TO PENETRATION OF GAS AND WATER, AND THEIR ADHESION TO STEEL AND STONE. SILICA IS ALSO ADDED TO COMBINE WITH THE CA(OH) SUB2 FORMED DURING DRYING. PRACTICAL TESTS IN STORAGE AREAS AT 100-168 ATM. GAVE GOOD RESULTS.

UNCLASSIFIED

UDC 621.842.2-585.862-183.2:620.178.311.4

USSR

RODZEVICH, N. V., Candidate of Technical Sciences, AFONSKIY, V. P., Engineer, KARDOVSKIY, V. S., Engineer, ZHUK, Ye. I., Candidate of Technical Sciences, KONONENKO, P. D., Engineer and CHAPALA, N. P., Engineer

"Strength of Heavy Drive Shafts"

Moscow, Vestnik Mashinostroyeniya, No 1, Jan 71, pages 28-30

Abstract: This article presents the results of a study of the strength of the drive shafts used in the power trains of heavy trucks and other transport equipment. The two types studied were designed for transmission of torques of 500 and 600 kgm. The weakest links in the heavy drive shafts when tested without rocking in bearings were the forks and X-members of the universal joints. Cracks arose in the drive shafts in areas where tensile stresses were concentrated (apertures, notches, welded joints, spline ends, separation of induction-annealed layers, etc.). In order to achieve equal strength of elements and increase the load-bearing capacity of heavy drive shafts, it is recommended that continuous splined forks of type 38KhMYuA steel with

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RODZEVICH, N. V., et al, Vestnik Mashinostroyeniya, No 1, Jan 71, pgs 28-30

nitrided surfaces be used. The notches dosigned to retain the end caps of tubular splined forks should be eliminated. The X-members should be strengthened by moving the oil aperture to the end of the member and increasing the radius of the fillet in the area of transition between the cylindrical portion of the pin and the central portion of the X-member.

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USSR

UDC 621.434.1:629.113:624.042

CHAPCHAYEV, A. A., TULYAKOV, V. M., The Automotive and Motor Vehicle Scientific Research Institute

"Determination of the Loads Acting on Piston Rod Bushings of the ZMZ-21D Engine"

Moscow, Avtomobil'naya Promyshlennost', No 1, January 1970, pp 6-8

Abstract: The authors used an experimental technique to determine the longitudinal forces on a working piston rod; from these, and easily calculated centrifugal forces, they determined the loads on the bushings. The experimental method involved a strain gauge attached directly to the rod and a special pickup device developed in the institute to convey the strain gauge readings to an oscillograph. The values obtained from a strain gauge at the center of gravity of a rod in the ZMZ-21D engine are shown in a table.

The authors combined these forces with the centrifugal force K, determined by the formula $K = mrw^2$, to obtain the loads on the bushing. These loads are shown in polar coordinates in a diagram.

USSR

CHAPCHAYEV, A. A., TULYAKOV, V. M., Avtomobil'naya Promyshlennost', No 1, January 1970, pp 6-8

The maximum compression load in the figure is equal to 2,725 kg, while the maximum tension force is much smaller, equal to 500 kg. At maximum power (n = 4,000 rpm), the instantaneous peak compression loads are 40% less, i.e., 1,620 kg, while the tension forces have increased to 1,580 kg.

Since the rod bushings consist of upper and lower halves, the forces shown above the center of the polar diagram operate on the upper half of the bushing, and those below the center of the diagram on the lower half. The authors found the average load on the bushings to increase with increasing rpm, while the peak loads decreased.

They also calculated these values by theoretical means for the operating range measurement point (n = 3,200 rpm), and obtained a mean load value approximately 20% less than that determined experimentally.

1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--DETERMINATION OF THE LOADS ACTING ON PISTON ROD BUSHINGS OF THE ZMZ-21D ENGINE -U-

AUTHOR--CHAPCHAYEV, A.A., TULYAKOV, V.M.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 1, JANUARY 1970, PP 6-8

DATE PUBLISHED----JAN70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--BUSHING, PISTON ENGINE, INTERNAL COMBUSTION ENGINE, MECHANICAL TEST, CENTRIFUGAL FORCE/(U)ZMZ21D INTERNAL COMBUSTION ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1218 STEP NO--UR/0113/70/000/001/0006/0008

CIRC ACCESSION NO--AP0106004

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106004

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS USED AN EXPERIMENTAL TECHNIQUE TO DETERMINE THE LONGITUDINAL FORCES ON A WORKING PISTON ROD; FROM THESE, AND EASILY CALCULATED CENTRIFUGAL FORCES, THEY DETERMINED THE LOADS ON THE BUSHINGS. THE EXPERIMENTAL METHOD INVOLVED A STRAIN GAUGE ATTACHED DIRECTLY TO THE ROD AND A SPECIAL PICKUP DEVICE DEVELOPED IN THE INSTITUTE TO CONVEY THE STRAIN GAUGE READINGS TO AN OSCILLOGRAPH. THE VALUES OBTAINED FROM A STRAIN GAUGE AT THE CENTER OF GRAVITY OF A ROD IN THE ZMZ-21D ENGINE ARE SHOWN IN A TABLE. THE AUTHORS COMBINED THESE FORCES WITH THE CENTRIFUGAL FORCE K, DETERMINED BY THE FORMULA K EQUALS MRW PRIME2, TO OBTAIN THE LOADS ON THE BUSHING. THESE LOADS ARE SHOWN IN POLAR COORDINATES IN A DIAGRAM. THE MAXIMUM COMPRESSION LOAD IN THE FIGURE IS EQUAL TO 2,725 KG, WHILE THE MAXIMUM TENSION FORCE IS MUCH SMALLER, EQUAL TO 500 KG. AT MAXIMUM POWER (N EQUALS 4,000 RPM), THE INSTANTANEOUS PEAK COMPRESSION LOADS ARE 40PERCENT LESS, I.E., 1,620 KG, WHILE THE TENSION FORCES HAVE INCREASED TO 1,580 KG. SINCE THE ROD BUSHINGS CONSIST OF UPPER AND LOWER HALVES, THE FORCES SHOWN ABOVE THE CENTER OF THE POLAR DIAGRAM OPERATE ON THE UPPER HALF OF THE BUSHING, AND THOSE BELOW THE CENTER OF THE DIAGRAM ON THE LOWER HALF. THE AUTHORS FOUND THE AVERAGE LOAD ON THE BUSHINGS TO INCREASE WITH INCREASING RPM, WHILE THE PEAK LOADS DECREASED. THEY ALSO CALCULATED THESE VALUES BY THEORETICAL MEANS FOR THE OPERATING RANGE MEASUREMENT POINT (N EQUALS 3,200 RPM), AND OBTAINED A MEAN LOAD VALUE APPROXIMATELY 20PERCENT LESS THAN THAT DETERMINED EXPERIMENTALLY.

UNCLASSIFIED

USSR UDC: 8.74

CHAPENKO, V. P.

"A Method of Setting Noise-Free Analog-Digital Converters"

Riga, Vopr. sinteza konechn. avtomatov--sbornik (Problems of Synthesizing Finite Automata--collection of works), "Zinatne", 1972, pp 179-186 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V612 [author's abstract])

Translation: The paper deals with the feasibility of increasing the reliability of analog-digital converters with feedback by setting up a noise-free balancing algorithm. A method is proposed for setting the conditions of operation of discrete devices (controlling automata) of analog-digital converters which are resistant to internal interference, and properties of the graph of the controlling automaton are formulated which enable the automaton to realize a noise-free balancing algorithm when these properties are satisfied.

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USSR

UDC 681.325.3

CHAPENKO, V. P.

"Voltage-to-Code Converter"

USSR Author's Certificate No 271917, filed 10 May 68, published 4 Aug 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B473 P)

Translation: A voltage-to-code converter with feedback containing a register, a coincidence circuit, a code-to-voltage converter, a two-channel zero-element of the generator type, gates, a collecting circuit, a control flip-flop, and an indicator is proposed. It is distinguished by the following: In order to improve the reliability and decrease the conversion error, the zero input of the flip-flop of the low-order bit of the register is connected to the output of one coincidence circuit to one input of which the ones output of the low-order bit flip-flop is connected; the ones input of the i-th flip-flop of the register (where i is 1, 2, 3, ..., n - 1) is connected to one input of the other coincidence circuit controlling the "0" reset of the flip-flop of the (i - 1) st bit of the register; the other inputs of the coincidence circuit are connected via a gate to the "-" zero-element output). There is 1 illustration.
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USSR

UDC: 621.317.7+681.142.621

PLAUDE, R. A., and CHAPENKO, V. P., Institute of Electronics and Computer Technology, Academy of Sciences, Latvian SSR

"Possibilities for the Logical Design of Digital Meters by the Method of Inertial Semi-Automatic Devices"

Riga, Izvestiya Akademii Nauk Latviskoy SSR, No 2, 1970, pp 97-102

Abstract: A formal procedure is described for the design of digital measuring devices. In contrast to the models of Moore and Moore-Mill, the components are described as inertial semi-automatic devices, less sensitive to impulse noise than impulse-potential elements and less sensitive to the parameters of the signals measured, amplitude, duration, and steepness. The technique of formation of all bits in the output code is identical, except for the high- and low-order bits. The example used in an analog-to-digital converter made up of iterative structures.

The basic technique is to represent the control section (comparison section) of this apparatus as a finite automaton, first by state diagrams and then by an eight-state matrix, in which each row represents a state and the values of

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PLAUDE, R. A., and CHAPENKO, V. P., Izvestiya Akademii Nauk Latviskoy SSR, No 2, 1970, pp 97-102

the elements in this row represent the transitions from this state to other states. This state matrix is then reduced to a matrix containing no degenerate or competitive relationships between states, by a method attributed to Yakubaytis, Gobzemis, and Fritsnovich in No 5 of the journal Avtomatika i Vychislitel'naya Tekhnika for 1967. Further simplifications are achieved by the introduction of functional connections and the combination of intermediate states, by a technique also attributed to Yakubaytis and described in the same issue of the same journal.

The present article introduces a modification of this algorithm, since the difficulty of establishing iterative relationships among the various functional connections makes it difficult to use. The modified algorithm does not guarantee the absolute minimum number of intermediate variables; however, it produces iterative structures on the basis of determined rules. An example of this procedure is given for the analog-to-digital converter control circuit described. The steps are: 1) find the row corresponding to the initial state; 2) insert 1's in the indeterminate transitions and exclude the intermediate variable corresponding to this state as unitary; 3) find the intermediate states

USSR

PLAUDE, R. A., and CHAPENKO, V. P., Izvestiya Akademii Nauk Latviskoy SSR, No 2, 1970, pp 97-102

corresponding to each of the possible states of the output bits (in the example there are three bits and eight states); 4) find the inverse relationships expressing each bit in terms of some combination of states; 5) interchanging the columns, obtain a shorter code for the internal states, in which the first eight states are replaced by the low-order three-bit values.

As this process is repeated, internal states which appear only in combination are isolated and replaced by single states, until the number of such states has been reduced to a relative minimum. The result is a shorter code than the initial code. This is converted to hardware by replacing each bit in the code with a negative feed-back circuit; to ensure the inertial character of the circuits, filters are included in them.

The authors report that several instruments have been designed by this method and that the majority of them are comparable in complexity to available instruments and less sensitive to input noise. The fact that they are constructed

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USSR

PLAUDE, R. A., and CHAPENKO. V. P., Izvestiya Akademii Nauk Latviskoy SSR, No 2, 1970, pp 97-102

from iterative structures substantially reduces the development time, since only minor changes need to be made for the high- and low-order bits.

There are five references, all to Soviet sources.

USSR

UDC 621.396.67.001.24

CHAPLIN, A. F.

"Energy Method of Designing Microwave Antennas"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 100, pp 53-57 (from RZh-Radiotekhnika, No 7, Jul 72, Abstract No 7B1)

Translation: A method based on establishing the relation of the distribution of the normalized voltage in the far zone and in the antenna aperture is discussed.

USSR UDC 621.396.673.4

CHAPLIN, A.F. (Member, Scientific-Technical Society Of Radio Engineering, Electronics, And Communication imeni A.S. Popov)

"Synthesis Of Antenna Array For A Radiation Pattern With A Given Continuous Function"

Radiotekhnika, Vol 27, No 3, Mar 1972, pp 42-47

Abstract: Two main problems are considered which lead to a synthesis of an array for a given graphic or analytical radiation pattern and for a given precision of its approximation: 1) How to define the required radiation pattern; and 2) How to find the necessary number of elements of the array in order to obtain the given precision of approximation. Formulas are derived which make it possible to estimate the necessary number of elements in a rectilinear equidistant or nonequidistant array. With an increase of the number of elements, it is possible to make the deviation from the given pattern as small as desired. The author thanks V.P. Gromov and A.M. Sedletskiy for assistance in the work. 1 fig. 11 ref. Received 29 Sept 69.

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USSR

UDC 621.396.677.32

CHAPLIN, A. F.

"Theory of Antennas with Modulated Surface Waves"

Izv. VMEI Lenin (News of the Lenin VMEI Institute), 1970, book 5, pp 230-237 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B66)

Translation: A study is made of the theory of flat and cylindrical surface wave antennas with arbitrarily shaped and low-amplitude modulation of the surface impedance along the antenna.

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USSR

UDC 539.3:534.1

GREBENYUK, G. I., CHAPLINSKIY, I. A.

"A Nonlinear Problem of Calculating a Thin Spherical Shell on an Elastic Base"

Tr. Sib. NII metrol. (Works of the Siberian Scientific Research Institute of Metrology), 1971, No. 13, pp 45-52 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8V236)

Translation: The problem of the stability of a symmetrically loaded spherical shell on an elastic base is solved in a geometrically nonlinear formulation. The case of loss of stability with the formation of a local symmetric depression is discussed. A two-parameter Vlasov model was selected as a model for the elastic base. The Ritz-Papkovich method for two variable parameters is applied to solve the system of nonlinear equations describing the problem. Shells of varying rigidity with different rigidities of the base are investigated. Graphs are given for equilibrium states of the base and the lower critical stress as a function of the parameter characterizing the rigidity of the shell. The effect of rigidity of the base on the lower critical load is analyzed. It is concluded that an

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USSR

GREBENYUK, G. I., CHAPLINSKIY , I. A., Tr. Sib. NII metrol., 1971, No. 13, pp 45-52

increase in the rigidity of the base lowers the lower critical load. The possibility of separation of the shell from the base in the region of the depression under a considerable increase in the rigidity of the base is noted. V. B. Silkin.

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CHAPLYGIN, F. I.

JPRS 59873

23 August 1973

TECHNOLOGY OF PRODUCING NEW MATERIALS

Translation of Russian-language collection: Tekhnologiya Polucheniya Novykh Materialov, 1972, Kiev.

CONTENTS

Technology of Powder Metallurgy and Nitrides

JPRS 59873

23 July 73

CONTENTS (Continued)

USSR

UDC 669.295'27.2

SAMSONOV, G. V., CHAPLYGIN, E. I., VITRYANYUK, V. K., and ABRAMOVA, V. S., Kiev

"Physico-Mechanical Properties of Tungsten Titanate Solid Alloys With Carbon Deficit in the Lattice of the Carbide Solid Solution"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 5, Sep-Oct 72, pp 158-162

Abstract: An investigation was made of the production conditions of solid solutions of the T15K6 type based on composite carbides 0.6 $TiC_{1.0}$-0.4 WC, 0.6 $TiC_{0.8}$-0.4 WC, and 0.6 $TiC_{0.6}$-0.4 WC. The alloys, after sintering in a hydrogen medium, possess satisfactory physico-mechanical properties, but caking in vacuum results in embrittlement due to the vaporization of cobalt. A decrease in the carbon content in the composite carbide $TiC_{x \leq 1}$-WC results in increased coercivity, increased specific electric resistance, slightly increased hardness, and decreased bending strength. In alloys produced on the basis of $TiC_{0.6}$-WC composite carbide the η_1 phase is present, as in WC-Co alloys. The cutting properties of the investigated alloys in processing steel 50 are 30-40% higher than those of the standard T15K6 alloy. Four figures, two tables, eight bibliographic references.
1/1

CHAPLYGIN, G.V.

SPRS 59205
6-73

XII-10. STRUCTURE AND ELECTRICAL PROPERTIES OF INDIUM ARSENIDE FILMS OBTAINED BY THE GAS TRANSPORT METHOD IN WATER VAPOR

[Article by G. V. Chaplygin, S. A. Smolentsev, T. I. Shcherbakova, Moscow; Novosibirsk, III Simpozium po Problemam Rosta i Sinteza Polupro-vodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 171]

A study was made of the dependence of the morphology, the actual structure and the electrical properties of indium arsenide films on the composition of the gas phase, the temperature in the crystallization zone and the orientation of the substrates made of polished gallium arsenide.

On the basis of the thermodynamic analysis of the $InAs-H_2O-H_2$ system, the water vapor pressure region was defined which insures a stoichiometric ratio of indium and arsenic in the gas phase.

It was demonstrated experimentally that the indium arsenide films obtained by the gas transport in water vapor are not inferior to the initial single crystals with respect to their electrical properties.

USSR

UDC 621.378.325

GARDASH'YAN, V. M., CHAPLYGIN, V. A.

"Electro-Optical Gate for a Laser With Reduced Controlling Voltage"

Moscow, Kvantovaya Elektronika, No 2, 1971, pp 65-68

Abstract: An electro-optical laser gate is considered for operation on a voltage which gives a phase lead of $\pi/4$. The gate is essentially a series arrangement of a polarizer, a crystal with linear electro-optical effect and a prism with total internal reflection. The axes of the prism and the electro-optic crystal (under voltage) are parallel to each other and make an angle of 45° with the axes of the polarizer, which passes only the light vector E_{x1} and attenuates E_{y1} emission. The gate is switched from the open to the closed state (and vice versa) by rotating the prism through a right angle about an axis perpendicular to the edge of the prism. The experimental energy characteristics of a ruby laser with such a gate are presented. The proposed gate can be used in lasers with unpolarized emission. In this case, the controlling voltage is 4.5 kV for a KDP polarizer in a neodymium glass laser (wavelength 1.06 μ). Five figures, bibliography of two titles.

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USSR UDC: 621.333.51

VASIL'YEV, V. V., KLEPIKOVA, A. N., CHAPLYGIN, V. L., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Device for Simulating a Linear Programming Problem"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289422, division G, filed 7 Jan 70, published 8 Dec 70, p 163

Translation: This Author's Certificate introduces a device for simulating a linear programming problem. The device contains a reversible adder and a limiter-diode box which are interconnected. As a distinguishing feature of the patent, the operational process is simplified by adding a target function module. Connected to the inputs of this module are a discrepancy indicator and a unit which indicates linear operation of amplifiers. The output of the target function module is connected to the input of the reversible adder, and the inputs of the discrepancy indicator and the unit which indicates linear operation of amplifiers are connected to the outputs of a reversible linear converter and the linear adder.

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USSR

UDC: 681.333.001.57

VASIL'YEV, V. V., CHAPLYGIN, V. L., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Device for Modeling Linear Programming Problems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 31, 1970, Soviet Patent No 283696, Class 42, filed 27 Jun 69, pp 141-142

Abstract: This Author's Certificate introduces a device for modeling linear programming problems. The device contains unregulated voltage and current sources and a series circuit made up of a reversible linear converter, a reversible adder, and a block of limiting diodes. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding an auxiliary limiting diode block with its inputs connected to the outputs of the reversible linear converter and its outputs connected to one terminal of the unregulated current source, while the unregulated voltage source is connected to the reversible adder input.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520011-8"

AA0044755 Chaplygin, E.I UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243266 A JET-TYPE TRIGGER WITH COUNTER INPUT is proposed, for fluid operation, consisting of three units 1-3 (see diagram), of which 1,2 are OR-NOT-OR active elements and 3 a passive trigger with two inputs; in a particular case this may also be made from 2 OR-NOT-OR elements. Channels 5-7 and 8-10 are inputs; 11,12 an OR output and 13,14 a NOR output. 3,4 receive the feed supply. If a signal denoting zero arrives at 7 it sets up a conventional unity signal at 11 (deflecting feed from 3) and, by acting through 9, the same signal at 14. 12,13, receiving no pressure, register conventional zero. The cross-flow of the fluid from channel 9 to 8 sets up a counter-current in 17, so that a count

Volzhskiy Filial Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Abrazivov i Shlifovaniya

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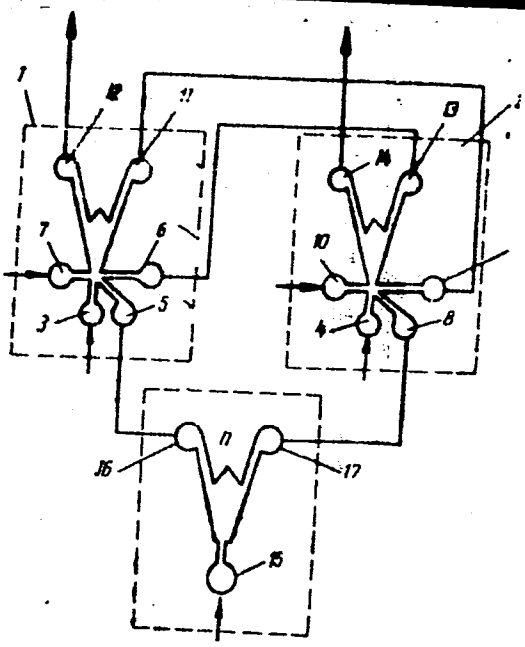

pulse arriving from I5 deflects to 16 and, actuating 5, changes over the conditions of 11,12,13,14. Cross flow from 6 to 5 then sets up resistance in 15, so that the next count pulse at 15 is directed to 17, s.. repeating the cycle.

6.10.67 as 1188986/18-24. E.I.CHAPLYGIN & A.K.TROSHKIN. ABRASIVES & GRINDING RES.INST. VOLGA BRANCH. (12.9.69) Bul 16/5.5.69. Class 42m^2, 21a^1. Int.Cl. G 06d. H 03k.

19771528

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PRODUCTIVE CAPACITY OF GAS FIRED SMELTING FURNACES -U-

AUTHOR-(02)-CHAPLYGIN, YU.V., YERINOV, A.YE.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(3), 30-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SMELTING FURNACE, METAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0947 STEP NO--UR/0492/70/015/003/0030/0034

CIRC ACCESSION NO--AP0121549

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE PRODUCTIVE CAPACITY AND THE MEAN SP. PRODUCTIVE CAPACITY OF A PILOT PLANT FURNACE ON THE METAL CONTENT IN THE CHARGE, RATE OF HEATING, AND THE HEIGHT OF THE CHARGE, AND THE DEPENDENCE OF THE SP. HEAT YIELD ON THE CAPACITY WERE DETD. FACILITY: INST. GAZA, KIEV, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PARTICIPATION OF CHOLINERGIC BRAIN STRUCTURES IN THE MECHANISM OF EMOTIONAL MEMORY -U-

AUTHOR-(02)-ILYUCHENOK, R.YU., CHAPLYGINA, S.R.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP 176-184

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EMOTION, MEMORY, DOG, BRAIN, CHOLINOLYTIC, CHLORPROMAZINE, PSYCHOLOGIC CONDITIONING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0732 STEP NO--UR/0247/70/020/001/0176/0184

CIRC ACCESSION NO--AP0052186

UNCLASSIFIED

2/2 026 UNCLASSIFIED

CIRC ACCESSION NO--AP0052186 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF A BLOCKADE OF THE BRAIN CHOLINORECEPTORS ON EMOTIONAL MEMORY BASED ON FEAR REACTION, HAS BEEN STUDIED ON THIRTEEN DOGS. SMALL DOSES OF MUSCARINE ANTICHOLINERGIC DRUGS ADMINISTERED IN 10 TO 15 MINUTES AFTER THE ELABORATION OF A CONDITIONED DEFENSIVE REACTION CONTRIBUTE TO THE DISAPPEARANCE OF THE EMOTIONAL COMPONENT OF THE REACTION ONLY ON THE DAY OF THE DRUG ADMINISTRATION. ITS STABLE DISAPPEARANCE REQUIRES A REPEATED INJECTION OF THE SAME DOSES FOR SEVERAL DAYS. CONDITIONED EMOTIONAL FEAR REACTION ELABORATED TWO TO THREE MONTHS BEFORE IS STEADILY DEPRESSED BY LARGER DOSES OF THE PREPARATIONS REPEATEDLY APPLIED FOR SEVERAL DAYS. LARGE DOSES INJECTED BEFORE ITS ELABORATION FULLY PREVENT THE IMPRINTING OF THE REACTION AND OF ITS EMOTIONAL COMPONENT. CHLOR PROMASINE ADMINISTERED BOTH IN 10 TO 15 MIN. AND IN THREE WEEKS AFTER THE ELABORATION OF THE CONDITIONED DEFENSIVE REACTION, EXERTS NO INFLUENCE EITHER ON THE DIRECT OR LONG TERM EMOTIONAL MEMORY. THE POSSIBLE MECHANISM OF THE ACTION OF MUSCARINE ANTICHOLINERGIC DRUGS ON THE EMOTIONAL MEMORY IS DISCUSSED.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

CHAPLYGINA, Z. A., TEODOROVICH, V. P., SEDOVA, L. A., TKHORZHEVSKAYA, Z. S., MIKHAYLOVA, L. G.

"Investigation of the Properties of Certain Synthetic Polymers and Copolymers to Determine Their Physiological Activity"

Riga, V sb. Fiziol. i opticheski aktivn. polimern. veshchestva (Physiologically and Optically Active Polymer Substances--collection of works), "Zinatne," 1971, pp 82-88 (from RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F2189)

Abstract: The authors investigated certain biological properties of polyvinyl alcohol (I), polyvinyl-pyrrolidone (II), and also copolymers of vinylpyrrolidone with crotonaldehyde (III) with various degrees of substitution. It is shown that solutions of low-molecular I and II (molecular weight 10,000 and 12,000) and also III with a 5 percent degree of substitution are not toxic for mice. The toxicity of III increases when the degree of substitution is raised to 25 percent. Data are given on the concentration of I and II with different molecular weights in the blood. The main path of elimination is through the kidneys; an insignificant

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USSR

CHAPLYGINA, Z. A., et al, V sb. Fiziol. i opticheski aktivn. polimern. veshchestva, "Zinatne," 1971, pp 82-88

amount penetrates into the tissues. Compound (I) actuates the reticulo-endothelial system on the tenth day after injection, and III throughout the entire period of the observations (3 hours to 20 days). It is shown that the polymers have a detoxifying effect which is associated in the opinion of the authors with the presence of aldehyde groups.

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USSR

UDC 615.361.419.03:617-001.28-092.9

GANKEVICH, G. A., SHOSTKA, G. D., KANAYEV, S. V., and CHAPLYGINA, Z. A., Leningrad Institute of Hematology and Blood Transfusion, and Clinic of Internal Medicine First Leningrad Medical Institute imeni I. P. Pavlov

"The Effect of Bone Marrow Hydrolysate on the Survival of Lethally Irradiated Rabbits and on Some Hemopoietic Indices"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 6, Jun 70, pp 36-39

Abstract: Four groups of rabbits were irradiated with 1,000 r. The first group was the control; the second group was given bone marrow hydrolysate; the third group was given hydrolysate and neocompensan (polyvinylpyrrolidone); and the fourth group - neocompensan alone. Death rate was as follows: group one-57%; group two-48%; group three-22%; group four - the same as group one. In all animals reduction of levels of blood elements and depression of hemopoiesis were observed. Changes were most pronounced in group one and least in group two. In group four leukopenia was even more marked than in group one; neocompensan apparently ameliorates the symptoms but does not prevent the development of irradiation-induced anemia. Restoration of reticulocytes, in all animals, began on the 14th day after irradiation. It continued regularly in groups two and three; in group one the restoration dropped on the 21st day and in group four it was delayed. In all experiments with

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USSR

UDC: 621.315.592

VUL, B. M., IVANOV, V. S., RUKAVISHNIKOV, V. A., SAL'MAN, V. M., and CHAPNIN, V. A., P. N. Lebedev Physics Institute, Moscow

"Characteristics of Cadmium Telluride Doped With Iron"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1264-1267

Abstract: The electrical characteristics, photoconductivity, absorption, and electrical absorption in CdTe doped with Fe are considered. The iron impurity was introduced, in the experiments described, into the CdTe by diffusion annealing at 950° C for 50-100 hours in quartz ampoules exhausted to a pressure of 10^{-4} mm Hg or under the pressure of saturated Cd vapors. To investigate the effect of the iron impurity, measurement of the Hall constant and electrical conductivity was made in the 80-400° K temperature range, and the photoconductivity and absorption as well as the electrical absorption as functions of the photon energy were studied. Curves are plotted for the absorption coefficient as a function of photon energy at temperatures of 300, 90, and 20° K, and for electron concentration and mobility as functions of the

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USSR

VUL, B. M., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1264-1267

temperature. The electron mobility curve shows an anomalous characteristic in the 150-250° K range, where the mobility takes a sharp jump. The authors note that this peculiarity cannot be explained by traditional mechanisms and should be further explored.

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USSR

UDC: 621.372

CHAPOVSKIY, M. Z., YAVORSKIY, V. P.

"Electronic Impedance Transformers"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Electrical Communications Technology--collection of works), vyp. 7, Moscow, "Svyaz'", 1971, pp 196-205 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D71)

Translation: The paper deals with elements of the theory, principles of construction, and the order of planning and design of electronic impedance transformer circuits. Possible regions of application are discussed as well as associated future prospects. Three illustrations. Resumé.

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USSR

UDC 621.317.7:621.3.029.4

CHAPTSOV, R. P., YERSHOV, S. S.

"A Complex System for Statistical Analysis of Electric Signals"

Sb. nauch. tr. Chelyabinsk. politekhn. in-ta (Collected Scientific Works of the Chelyabinsk Polytechnical Institute), 1970, No 64, pp 51-57 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7A240)

Translation: The authors consider the general structure of a universal digital-analog system for calculating a set of estimates of the statistical characteristics of electric signals in the audio frequency range. The system contains a number of devices which can be divided into three groups: devices for analyzing the distributions of amplitudes of a random signal, devices for computing the estimate of the mathematical expectation and two-dimensional initial moment function of second order, and devices for calculating the coefficient of the amplitude spectrum. All devices are based on standard transistors. Seven illustrations, bibliography of 1 title. M. S.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--POSSIBLE USE OF COATINGS BASED ON CYCLO RUBBER RESIN IN THE FOOD INDUSTRY -U-

AUTHOR-(04)-SHAPOSHNIK, S.SH., CHAPURIN, V.I., SHCHELKUNOVA, M.S., KOUNER, M.S.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (1) 31-4

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--FOOD CONTAINER, COATING PACKAGING, RUBBER, PLASTICIZER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1627 STEP NO--UR/0303/70/000/001/0031/0034

CIRC ACCESSION NO--AP0106373

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106373

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMULATIONS WERE DEVELOPED SUITABLE FOR COATING FOOD CONTAINERS. THE UNDERCOATING CONTAINED CYCLO RUBBER (I) 27.0, DIOCTYL PHTHALATE (II) 10, FE OXIDE 13.5, TALC 13.5, AND SOLVENT R-4 46.0 PARTS. THE TOPCOAT CONTAINED I 27.0, II 10, TIO SUB2 27.0, AND R-4 46.0 PARTS. THE COATINGS WERE DRIED AT 80DEGREES FOR SIMILIAR TO 24 HR. THE CONTAINERS COATED WITH 2 LAYERS OF THE UNDERCOATING AND 4 LAYERS OF THE TOPCOAT WITHSTOOD THE CORROSIVE ACTION OF H SUB2 O, 1PERCENT TARTARIC ACID (III), OR 40PERCENT ALC. AND 1PERCENT III SOLNS. FOR SMALLER THAN OR EQUAL TO 10 MONTHS. THE UV SPECTRA OF THESE SOLNS. AFTER CONTACT WITH THE COATINGS SHOWED ONLY TRACES OF THE EXTD. ORG. COMPDS. PLASTICIZING THE COATINGS WITH NATURAL RUBBER, NATURAL OILS, OR LINSEED OIL GAVE LESS DURABLE COATINGS.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ARGENTOMETRIC METHOD FOR DETERMINING EPOXY GROUPS -U-

AUTHOR-(03)-CHAPURIN, V.I., SHAPOSHNIK, S.SH., MELNIKOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 56-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EPOXY RESIN, TITRATION, SILVER NITRATE/(U)ED5 EPOXY RESIN, (U)E41 EPOXY RESIN, (U)E49 EPOXY RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/D08 STEP NO--UR/0303/70/000/002/0056/0058

CIRC ACCESSION NO--AP0140296

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140296

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A SAMPLE OF AN EPOXY RESIN (DE 5, ED 5, E 41, OR E 49) A STOICHIOMETRIC EXCESS OF AQ. HBR WAS ADDED. THE EXCEDD HBR WAS REACTED WITH AGNO SUB3 AND THE AMT. OF AGNO SUB3 USED WAS DETD. BY THE TITRN. AGAINST NH SUB4 SCHN. THE METHOD IS VERY RAPID AND GIVES SATISFACTORY REPRODUCIBILITY AND ACCURACY.

UNCLASSIFIED

Acc. Nr. AP0034213 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UR 0028

74158r Copper salts of the semicarbazone and thiosemicarbazone of pyruvic acid. Ablov, A. V.; Belichuk, N. I.; Chapurina, L. F. (Inst. Khim., Kishinev, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 112–18 (Russ). Cryst. $CuXL.nH_2O$ pptd. when pyruvic acid semicarbazone (HL) was added to CuX_2 soln., where X = Cl or Br. Pyruvic acid thiosemicarbazone (H_2L') forms 3 kinds of complexes with Cu: $CuX(HL')$, $Cu(HL')_2$ and CuL'. H_2L' and HL behave as tridentate ligands. HMJR

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REEL/FRAME

19710866

USSR UDC: 621.396.96

CHAPURSKIY, V. V.

"Method of Analyzing Search Scanning Systems"

Kiev, Izvestiya Vuzov SSSR -- Radioelektronika, Vol 13, No 3, 1970, pp 283-292

Abstract: A search system with a two-stage signal capture indicator is investigated in this theoretical article. The method of analysis is based on the fact that the search process in radar can be considered a random regenerating process for many real algorithms at some interval of time. Under very broad assumptions, regeneration points in this process can be chosen. Before the first point, based on the behavior of the search trajectory, all possible trajectories can be broken down into several types. Then, by applying the probability measure to these trajectories, the regeneration equation for the search time distribution law is written. Thus, the errors of the second detection stage can be easily taken into account, and the problem of the signal search time is solved 1/2

USSR

CHAPURSKIY, V. V., Izvestiya Vuzov SSSR -- Radioelektronika, Vol 13, No 3, 1970, pp 283-292

with the transition to the tracking mode considered. The formulas for the characteristic functions, the mathematical expectation, and the search time dispersion are derived.

2/2

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--METHOD OF ANALYZING SCANNING SEARCH SYSTEMS -U-

AUTHOR--CHAPURSKIY, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZV, VUZ RADIOELEKTRONIKA, VOL. 8, MAR. 1970, P. 283-292

DATE PUBLISHED----MAR70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., NAVIGATION

TOPIC TAGS--FREQUENCY SCANNING, SEARCH MODE, SIGNAL RECEPTION, TRACKING SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0545 STEP NO--UR/0452/70/008/000/0283/0292

CIRC ACCESSION NO--AP0124240

UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124240

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF AN ANALYSIS METHOD BASED ON THE TREATMENT OF THE SCANNING SIGNAL SEARCH PROCESS AS A REGENERATIVE RANDOM PROCESS WITH A BREAK IN THE TRAJECTORY AT THE MOMEN OF THE SYSTEM'S TRANSITION INTO A TRACKING OR FOLLOW UP MODE OF OPERATION. THE ANALYSIS TECHNIQUE IS DEMONSTRATED ON THE BASIS OF A SIGNAL SEARCH SYSTEM HAVING A TWO STAGE LOCK ON INDICATOR. THE METHOD INVOLVES THE CONSTRUCTION OF AN INTEGRAL RECOVERY EQUATION FOR THE CONDITIONAL SEARCH DURATION DISTRIBUTION FUNCTION. THE STATISTICAL CHARACTERISTICS OF THE SEARCH DURATION ARE DETERMINED WITH ALLOWANCE FO THE SECOND STAGE OF DETECTION. ATTENTION IS GIVEN TO A SEARCH SYSTEM WITH A RELIABLE SIGNAL TRACKING CHARACTERISTIC.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ON THE ENERGY SPECTRUM OF COSMIC RAYS IN INTERSTELLAR SPACE -U-

AUTHOR-(02)-CHARAKHCHYAN, A.N., CHARAKHCHIAN, T.N.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC
DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--ENERGY SPECTRUM, COSMIC RAY, INTERSTELLAR MATTER, SUNSPOT, PROTON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605061/B05 STEP NO--HU/2506/70/029/000/0305/0308

CIRC ACCESSION NO--AT0144430

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AT0144430
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESTABLISHMENT OF AN EMPIRICAL CONNECTION BETWEEN THE INTENSITY OF THE PRIMARY RADIATION IN VARIOUS ENERGY RANGES AND THE NUMBER OF SUNSPOT GROUPS, ETA. IT IS POSSIBLE TO CACLULATE THE ENERGY SPECTRUM OF COSMIC RAYS BELONGING TO THE SUNSPOT NUMBER 0. THE SPECTRUM AT ETA EQUALS 0 IS PROBABLY VERY CLOSE TO THE SPECTRUM OF THE RADIATION IN INTERSTELLAR SPACE. AN APPROXIMATION IS GIVEN FOR THE ENERGY SPECTRUM OF PROTONS AT ETA EQUALS 0.
FACILITY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ON THE ENERGY SPECTRUM OF COSMIC RAYS IN INTERSTELLAR SPACE -U-

AUTHOR-(02)-CHARAKHCHIAN, A.N., CHARAKHCHYAN, T.N.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC
DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--ENERGY SPECTRUM, COSMIC RAY, INTERSTELLAR MATTER, SUNSPOT, PROTON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----F070/605061/B05 STEP NO--HU/2506/70/029/000/0305/0308

CIRC ACCESSION NO--AT0144430

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AT0144430
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESTABLISHMENT OF AN EMPIRICAL CONNECTION BETWEEN THE INTENSITY OF THE PRIMARY RADIATION IN VARIOUS ENERGY RANGES AND THE NUMBER OF SUNSPOT GROUPS, ETA. IT IS POSSIBLE TO CACLULATE THE ENERGY SPECTRUM OF COSMIC RAYS BELONGING TO THE SUNSPOT NUMBER 0. THE SPECTRUM AT ETA EQUALS 0 IS PROBABLY VERY CLOSE TO THE SPECTRUM OF THE RADIATION IN INTERSTELLAR SPACE. AN APPROXIMATION IS GIVEN FOR THE ENERGY SPECTRUM OF PROTONS AT ETA EQUALS 0.
FACILITY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--TECHNICAL DIAGNOSTICS OF HOMOGENEOUS STRUCTURES WITH MEMORY -U-

AUTHOR--CHARAYEV, G.G.

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA I TELEMEKHANIKA, 1970, NR 4, PP 182-184

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--CIRCUIT FAILURE, FINITE AUTOMATON, MEMORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1717 STEP NO--UR/0103/70/000/004/0182/0184

CIRC ACCESSION NO--AP0118695
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118695

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE ARE SUGGESTED THE METHODS OF CONTROLLING THE GOOD CONDITION AND THE DIAGNOSTICS OF FAILURES OF HOMOGENEOUS STRUCTURE THE TWO INPUT CELLS OF WHICH ARE THE FINITE AUTOMATA WITH A MEMORY UTILIZED FOR THE CELL ADJUSTMENT FOR THE FULFILMENT OF THE BOOLEAN FUNCTION OF TWO VARIABLES.

UNCLASSIFIED

USSR

YEPISHEVA, S. M., KOLOMIYTSEV, M. A., CHARBADZE, L. A., Physics Institute of the Georgian SSR Academy of Sciences

"Ratio of the Corrosion Products of 1Kh18N9T Stainless Steel in Water and Ion-Exhange Resins of the Desalinization Filters of the Primary Circuit of the IRT Nuclear Reactor"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 3, 1971, pp 597-599

Abstract: A study was made of the iron, chromium, and nickel content in individual sections of the 1Kh18N9T stainless steel primary cooling circuit of the IRT nuclear reactor of the Physics Institute of the Georgian SSR Academy of Sciences to discover the causes of increased concentration of these impurities. Resin samples taken from the ion-exchange filters of the circuit were analyzed, and the content of the mentioned elements was calculated in the total volume of the heat-exchange agent. The results show that the absorption of metal cations by the KU-2 resin is selective -- iron and nickel are primarily sorbed. In AV-17 resin which creates an alkaline environment in the filter (pH ~ 9), separation of the insoluble hydroxides and mechanical holding of particles of them takes place. As a result of the amphoteric nature of chromium, its absorption on the anion-exchange resin is so high that it exceeds the cation absorption by 2-3 times. As is obvious, the determining factor in the overall

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USSR

YEPISHEVA, S. M., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 3, 1971, pp 597-599

balance for iron and nickel is the content in the cation-exchange resin whereas for chromium, on the contrary, it is the content in the anion-exchange resin. Thus, the cause of the apparent relatively high concentration of metals present as steel additives in the water of the primary loop is the selectivity in the absorption of the cations by the ion-exchange resins. In the overall balance of the system the actual contents of the iron, chromium, and nickel are the same as for the initial steel, indicating uniform elution of the stainless steel components during corrosion.

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USSR UDC 615.373.39:576.858.75].012.6

CHARCHOGLYAN, R. A., BERDINSKIKH, M. S., KUPRADZE, S. A., and KOSYAKOV, P. N., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Preparation of Specific Immune Serum to Sendai Virus Ribonucleoprotein"

Moscow, Voprosy Virusologii, No 5, 1971, pp 610-616

Abstract: Sendai virus was passaged in chick embryos and purified by a single cycle of differential centrifugation, with the sediment resuspended in phosphate buffer. Pure ribonucleoprotein (RNP) was isolated by Hosaka's method: the virus was destroyed with Tween 20 in an alkaline medium after which the RNP was isolated in a CsCl density gradient. Anti-S serum was obtained from rabbits immunized with the isolated RNP mixed with complete Freund adjuvant. The serum was tested in the complement-fixation and immunofluorescence reactions. Injection of the purified RNP resulted in the production of antibodies of different specificities to antigens of both viral and normal cells.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520011-8"

USSR UDC 576.858.75.097.37.095.1

BERDINSKIKH, M. S., and CHARCHOGLYAN, R. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Reaction of Sendai Virus Complement-Fixing Antigens to Various Factors"

Moscow, Voprosy Virusologii, No 5, 1971, pp 539-543

Abstract: The V and S antigens do not dissolve in alcohol, acetone, or chloroform and are inactivated by these agents. They are also sensitive to sodium periodate and trypsin but resistant to neuraminidase from a filtrate of cholera vibrios. However, both anitgens are markedly thermostable, the V antigen more so. While the S antigen loses its serological activity at 77 to 78°C, the V antigen can withstand temperatures ranging from 90 to 95°C. Even after heating to 100°C for 30 min, V antigen is still active but only one-sixth to one-eighth as active as before heating.

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USSR

UDC 576.858.75.083.35.097.2

CHARCHOGLYAN, R. A., and KOSYAKOV, P. N., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Specific Antigens in Virus-Infected Cells"

Moscow, Uspekhi Sovremennoy Biologii, No 2(5), 1971, pp 183-200

Abstract: Virus-infected cells undergo changes in antigen structure in the course of infection and synthesize antigens that differ both from antigens of the mature virus and from antigens of the normal cell. Cells infected with oncogenic virus, for example, become resistant to tumor transplants because of the so-called new antigens. Resistance develops because the virus penetrates into the host cells, where it induces synthesis of antigens identical to the tumor antigens but foreign to the host. The immunological reaction of the host results in rejection of the tumor transplant. This review of the literature also discusses "new" antigens in cells infected with nononcogenic viruses, properties and specificity of the "new" antigens, relationships between complement-fixing and transplantion antigens, and the time and site of development of the antigens.

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USSR

UDC 576.858.5.097.2

BERDINSKIKH, M. S., CHARCHOGLYAN, R. A., and KOSYAKOV, P. N., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Isolation of a New Antigen Induced by Sendai Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 524-529

Abstract: Attempts were made to isolate a new antigen (an early protein) induced by Sendai virus in the chorioallantoic membrane of chick embryos using the sucrose-gradient centrifuging method. This antigen differs in its sedimentation properties from antigens of the mature virus particle (or its individual components) and is localized in the same fractions of the gradient as the components of normal host cells. To separate this new antigen from the normal host cells, a more sensitive method is required (for example, electrophoretic separation of cell components in polyacrylamide gel).

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USSR UDC 576.858.75.083.35.097.2

CHARCHOGLYAN, R. A., BERDINSKIKH, M. S., and KOSYAKOV, P. N., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"New Antigens Induced by Sendai Virus in Cells of Various Species"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 70, pp 208-212

Abstract: Sendai virus was found to induce a new specific antigen in cells of different species (chick embryo fibroblasts, transplanted human amnion, monkey kidney cells, pig kidney cells, mouse fibroblasts) differing both from antigens of the mature virus and from antigens of normal cells. The specificity of the new antigen did not depend on the cell species, but was determined by the virus. Immunofluorescent studies showed that the new antigen differs from the structural viral antigens by the time of its appearance (it preceded the V-antigen), localization (cytoplasmic from the moment of detection) and the pattern of fluorescence (strictly granular).

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--NEW ANTIGENS INDUCED BY SENDAL VIRUS IN CELLS OF DIFFERENT SPECIES AFFINITY -U-

AUTHOR-(03)-CHARCHOGLYAN, R.A., BERDINSKIKH, M.S., KOSYAKOV, P.N.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 208-212

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VIRUS, CONTINUOUS CULTURE, TISSUE CULTURE, ANTIGEN, FLUORESCENT ANTIBODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0735 STEP NO--UR/0402/70/000/002/0208/0212

CIRC ACCESSION NO--AP0108941

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108941

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SENDAI VIRUS WAS FOUND TO INDICE A NEW SPECIFIC ANTIGEN IN CELLS OF DIFFERENT SPECIES ORIGINS (CHICK EMBRYO FIBROBLASTS, CONTINUOUS HUMAN AMNION CELLS, MONKEY KIDNEY CELLS, PIG EMBRYO KIDNEY CELLS, MOUSE FIBROBLASTS) DIFFERING BOTH FROM ANTIGENS OF THE MATURE VIRUS AND FROM ANTIGENS OF NORMAL CELLS. THE SPECIFICITY OF THE NEW ANTIGEN DID NOT DEPEND BY THE CELL SPECIES BUT WAS DETERMINED BY THE VIRUS. THE IMMUNOFLUORESCENT STUDIES SHOWED THE NEW ANTIGEN TO DIFFER FROM THE STRUCTURAL VIRAL ANTIGENTS BY THE TIME OF APPEARENCE (PROCEEDED THE V,ANTIGEN), LOCALIZATION (CYTOPLASMIC FROM THE MOMENT OF DETECTION) AND THE PATTERN OF FLUORESCENCE (STRICTLY GRANULAR).

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200520011-8"

1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--A TOTAL RADIATION FLUX RATIO PYROMETER -U-

AUTHOR--CHARIKHOV, L.A.

COUNTRY OF INFO--USSR

SOURCE--PRIBORY I SISTEMY UPRAVLENIYA, NO 5, 1970, PP 37-40

DATE PUBLISHED-------70

SUBJECT AREAS--METHODS AND EQUIPMENT, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIATION PYROMETER, IR PYROMETER, TEMPERATURE MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605046/C12 STEP NO--UR/0445/70/000/005/0037/0040

CIRC ACCESSION NO--AP0143140

UNCLASSIFIED

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0143140 PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TOTAL RADIATION PYROMETER IS SUPERIOR RO RADIATICN PYROMETERS OF OTHER TYPES, FOR EXAMPLE TO THE INFRARED PHOTCPYROMETER FOR THE MEASUREMENT OF RELATIVELY LOW TEMPERATURES OF HEATED BODIES ON THE BASIS OF THEIR THERMAL FLUX IN METALLURGY AND OTHER BRANCHES OF INDUSTRY. A COMPARATIVE ANLYSIS OF ERRORS IS PRESENTED, WHICH SHOWS THAT A TOTAL RADIATION FLUX RATIO PYROMETER IS NOT MORE COMPLEX THAN A CONVENTIONAL TOTAL RADIATION PYROMETER, IS JUST AS STABLE, AND SURPASSES THE CONVENTIONAL TYPE WITH RESPECT TO PRECISION OF THE TEMPERATURE MEASUREMENT OF OBJECTS WITH A QUASIGREY TYPE OF RADIATION AT RELATIVELY LOW VALUES OF RADIATION CAPACITY.

UNCLASSIFIED

USSR

UDC: 533.95:537.84

STARBUNOV, Yu. N., CHARIKOV, Yu. Ye.

"Plasma Temperature and X-Radiation Upon Injection of Electrons Accelerated in Solar Flares"

Leningrad, IV Leningr. mezhdunar. seminar "Yedinoobraziye uskoreniya chastits v razlich. masshtabakh kosmosa", 1972-sbornik (Fourth Leningrad International Seminar on the Uniformity of Particle Acceleration on Different Scales of the Universe, 1972--collection of works), 1972, pp 145-165, discussion pp 165-166 (from RZh-Fizika, No 6, Jun 73, abstract No 6G14 /resume/)

Translation: The time characteristics of temperature distribution are calculated in the one-dimensional problem for a plasma layer heated by the energy of nonthermal electrons from solar flares. It is shown that the plasma temperature may reach 10^8 degrees K. X-radiation fluxes for energy past 10 keV are calculated for a heated plasma.

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USSR

UDC 536.24:536.42

KIRICHENKO, YU. A., CHARKIN, A. I., DOLGOY, M. L.

"Study of the Dynamics of Vapor Bubbles under the Conditions of Simulating Weak Gravitational Fields"

Tr. Fiz.-tekh. in-t nizk. temperatur AN USSR (Works of the Physico-Technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences), 1970, vyp. 1, pp 184-196 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B686)

Translation: A kinematographic study was made of the dynamics of vapor bubbles when boiling liquid oxygen and diethyl ether under the conditions of simulating weak mass force fields. The simulation was carried out under laboratory conditions by two procedures developed at the Physico-technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences: the method of "suspending" the liquid paramagnetic substance -- oxygen -- in a nonuniform magnetic field and the method of expanding the gravitational force in components in thin inclined containers. The relations were obtained for the separating diameter, the separating frequency, the growth rate and the rate of ascent of the vapor bubbles as a function of the simulated gravitational acceleration. The bibliography has 20 entries.

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USSR

UDC 539.192/.194+535.33/.34.01

CHARKIN, O. P., Institute of New Chemical Problems of the Academy of Sciences USSR, Chernogolovka, Moscow Oblast

"Outer Atomic Orbitals and the Binding Energies of Inorganic and Heteroorganic Molecules"

Manuscript deposited at VINITI, No 4418-72 Dep, 6 June 1972, 67 pp, ill. (from RZh-Fizika, No 10, Oct 72, Abstract No 10D123DEP)

Translation: The energies E_{BC} and the orbitals ionization potential I_i of atoms and ions of all transition elements (from Li to Rn) were calculated from the atomic spectra for valence states with different populations of the valence (ns and np) and outer (nd, (n + 1)s, (n + 1)P, (N + 1(d, etc.) atomic orbitals. The change in the energy and spatial characteristics of the valence and outer atomic orbitals and different series of atoms and ions is discussed. It is concluded that the theory of localized pairs strongly overstates the populations of the outer atomic orbitals for higher derivatives of the elements of the subgroups P, S, Cl, and Ar but that the actual populations nd-AO should not considerably exceed 0.3-0.8 $\bar{e}$. It is shown, on the basis of more than 400 inorganic molecules, that the atomic energies satisfy the additivity rule with an accuracy of $\pm$4-10 kcal; deviations are not observed

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USSR

CHARKIN, O. P., Manuscript deposited at VINITI, No 4418-72 Dep, 6 June 1972, 67 pp, ill. (from RZh-Fizika, No 10, Oct 72, Abstract No 10D123DEP)

in any correlation as to magnitude and sign with the presence or absence in these atoms of possibilities for -pπ - dπ-interaction. The characteristics in the experimental binding energies in different series are discussed. It is concluded that the model of the outer atomic orbital cannot even qualitatively describe the total picture of the energy differences of the bonds of elements of the II period and their heavier analogs. 95 ref. Authors abstract.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CALIBRATION OF BALLISTIC PULSED PHOTOMETERS -U-

AUTHOR-(03)-VULFSON, K.S., GUREVICH, I.M., CHARNAYA, F.A.

COUNTRY OF INFO--USSR

SOURCE--PRIBORY I TEKHNIKA EKSPERIMENTA, JA.-FEB. 1970, P. 186, 187

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, METHODS AND EQUIPMENT

TOPIC TAGS--PHOTOMETER, INSTRUMENT CALIBRATION, LIGHT PULSE, LIGHT RADIATION EFFECT, ERROR MEASUREMENT, GALVANOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1550 STEP NO--UR/0120/70/000/000/0186/1087

CIRC ACCESSION NO--AP0106296

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0106296

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OUTLINE OF A METHOD OF CALIBRATING BALLISTIC PHOTOMETERS WITHOUT USING AN ETALON LIGHT PULSE. THE BALLISTIC SENSITIVITY OF THE PHOTOMETER IN QUESTION IS DETERMINED FROM ITS SENSITIVITY TO STEADY RADIATION, AND FROM THE OSCILLATION PERIOD AND THE DEGREE OF DAMPING OF THE GALVANOMETER FRAME. FACILITY: VSESOIUZNYI NAUCHNO-ISSLEDOVATEL'SKII SVETOTEKHNICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: None

ANTOKOL'SKIY, G. L., CHARNAYA, Ye. V., and SHUTILOV, V. A.

"The 'Defect' Mechanism of the Nuclear Spin-Phonon Connection"

Leningrad, Fizika tverdogo tela, No 11, 1973, pp 3250-3259

Abstract: Noting discrepancies between theory and experiment in the study of the spin-phonon connection in nuclei with a spin greater than $\frac{1}{2}$, the authors find that these discrepancies can be explained by the assumption that in the saturation of the quadrupole transitions of such nuclei by ultrasonics, there is a special mechanism which opposes the effect of relative ion shift in the acoustical wave. This type of mechanism can be associated with lattice defects that are present in every real crystal. Near these defective points, in dynamic deformations of the crystal, strong electric-field gradients may arise which act on the quadrupole moments of adjoining nuclei. The perturbations from these gradient centers are then propagated throughout the entire spin system by spin diffusion. Based on the defect mechanism, expressions for the spin-lattice reaction time are obtained. A table of these reaction times for various types of crystal is presented. Also shown is a curve for the quadrupole shift of resonant frequencies as a

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UDC: None

ANTOKOL'SKIY, G. L., et al, Fizika tverdogo tela, No 11, 1973, pp 3250-3259

function of the distance from the defect point.

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USSR

UDC 621.382.002 (088.8)

KOCHKAREV, G.V., KRACHKOVSKIY, O.I., LEYBOVICH, A.SH., CHARNYY, YU.S., PETRAKOVSKIY, YA.SH., SIDORENKO, L.D., LEVAKOV, V.P., GLADCHENKO, V.P., RATNEK, YU.A.

"Classifier Of Semiconductor Devices"

USSR Author's Certificate No 296180, filed 14 July 1969, published 18 May 1971 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3B357)

Translation: The classifier of semiconductor devices (principally transistors) contains a unit [uzel] for connection of a device to the measuring equipment, the measuring equipment, logical equipment, mechanism for marking the polarity, and a unit for allocation of the measured devices into a container; it has a rotating tube connected with an electric motor. With the object of increasing the speed of operation and the efficiency of the classifier, the unit for connection, made in the form of a revolving reversible disk, supporting two blocks [kolodka] for the devices, diametrically located and connected by a flexible braid [zhgut] with the measuring device, and two withdrawing devices, mounted on the axis of the blocks, is partially arranged inside a guiding hopper, connected with the rotating tube of the unit for allocation, and under the disk of the unit for connection, in a groove of the lateral surface of the hopper, the mechanism for marking the polarity is located.

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USSR

UDC:620.179.14

NURIYEV, F. N., ZAYTSEV, G. V., CHAROV, V. A.

"Device for Measurement of Thickness of Carbon-Free Steel"

Defektoskopiya, No. 3, 1970, pp. 80-85

Abstract: During production and heat treatment of steel products, a carbon-free layer is formed on their surface, which has considerably different physical properties from the main body of the steel. The primary difficulty in testing the thickness of this layer by electromagnetic methods is the presence of a large number of disturbing factors. The authors have developed a device to perform this task using a multiparametric vortex current method to eliminate most of the disturbing factors. Using this method, extraction of information concerning the parameter of interest is reduced to separation of the voltage increment at each of several operating frequencies and multiplication of this increment by a certain constant factor, different for each frequency. Results of plant testing of the device are presented.

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1/2 053 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CERTAIN THERMAL AND ELECTRICAL CHARACTERISTICS OF A LIQUID FULE DIFFUSION FLAME -U-

AUTHOR-(03)-TOLUBINSKIY, V.I., KOCHEREZHKO, A.N., CHARUKHA, L.G.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZIKA I TEPLOTEKHNIKA, VOL. 16, 1970, P. 21-25

DATE PUBLISHED-------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--THERMAL DECOMPOSITION, ELECTRIC PORPERTY, LIQUID FUEL, ETHYL ALCOHOL, COMBUSTION R AND D, PYROLYSIS, ELECTRON DENSITY, LOW TEMPERATURE EFFECT, PHYSICAL DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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